

IN THE CLAIMS

Claims 1-9 (Canceled).

10 (Original). A packaged integrated system comprising:

- an integrated circuit;
- an integrated electroosmotic pump mounted on said integrated circuit;
- a re-combiner; and
- a package including said circuit, said pump, and said condenser.

11 (Original). The system of claim 10 wherein said integrated circuit is part of a first die and said integrated electroosmotic pump is part of a second die, said second die having a first side and a second side, said pump formed on said first side.

12 (Original). The system of claim 11 including microchannels to circuit cooling fluid on said second side and said second side mounted on said first die.

13 (Original). The system of claim 11 including stacking said first die on said second die.

14 (Original). The system of claim 13 including a third die, said third die including a re-combiner, said third die stacked on said first and second dice.

15 (Original). The system of claim 14 including a heat exchanger stacked on said re-combiner.

16 (Original). The system of claim 14 wherein said first die is coupled to said second die using copper-to-copper bonding.

17 (Original). The system of claim 10 wherein said package is a flip-chip package.

18 (Original). The system of claim 10 wherein said package is a bumpless build-up layer package.

19 (Original). A packaged integrated circuit comprising:
an integrated circuit;
an integrated electroosmotic pump;
a combiner; and
a bumpless build-up layer package including said circuit, said pump, and said combiner, said package including a build-up layer that mechanically couples said circuit, said pump, and said combiner.

20 (Original). The system of claim 19 wherein said integrated electroosmotic pump is formed on a first die and said integrated circuit is formed on a second die and said condenser is formed on a third die.

21 (Original). The system of claim 20 wherein said integrated circuit die is mounted on said integrated electroosmotic pump die.

22 (Original). The system of claim 21 wherein said first and second dice are coupled by copper-to-copper bonding.

23 (Original). The system of claim 19 including a heat spreader coupled to said build-up layer.

24 (Original). The system of claim 20 wherein said first die includes at least one electroosmotic pump on one side and a plurality of microchannels on the other side, said microchannels to circulate cooling fluid pumped by said electroosmotic pump.

25 (Original). The system of claim 24 wherein said first die is mounted on said second die with said microchannels facing said second die.